

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the Application.

Listing of Claims:

1.-29. (Cancelled)

30. (Currently amended) A process for forming a thin film of material from a substrate, the process comprising the steps of:

(a) introducing a first species of gaseous compounds to form ~~forming a~~ buried confinement layer ~~of reduced thickness~~, at a distance from a surface of ~~said the~~ substrate, wherein the confinement layer being comprises a layer of inclusions ~~constituting a trap zone for a second species of~~ gaseous compounds:

(b) ~~treating the substrate so as to introduce a dose of~~ introducing said ~~the second species of~~ gaseous compounds in into the substrate, at a mean depth ~~comprised substantially within or at the vicinity of the confinement layer, in order to induce thereby inducing~~ a layer of micro-cavities along a fracture plane, ~~the presence of wherein the confinement layer inclusions resulting in obtaining~~ reduces the thickness of the a layer of micro-cavities of a thickness reduced with respect as compared to the layer thickness which would have been obtained in the absence of the inclusions confinement layer; and

(c) separating and recovering the thin film from the substrate along the fracture plane.

31. (Currently amended) The process according to claim 30, wherein introducing said the second species of gaseous compounds ~~are implanted~~ comprises implanting the second species of gaseous compounds into ~~said the~~ substrate at a mean depth of penetration corresponding to ~~the a~~ depth of the confinement layer ~~of inclusions~~.

32. (Currently amended) The process according to claim 30, wherein introducing said the second species of gaseous compounds ~~are implanted~~ comprises implanting the

second species of gaseous compounds into ~~said the~~ substrate at a mean depth of penetration close to the confinement layer of inclusions, and wherein the process further comprises including the step of heat treating ~~said the~~ substrate following implantation of ~~said the~~ second species of gaseous compounds so as to cause migration of ~~said the~~ second species of gaseous compounds to the confinement layer of inclusions.

33. (Currently amended) The process according to claim 30, wherein ~~the said~~ the substrate ~~is composed of~~ comprises a main part that supports ~~supporting~~ a film structure in which the thin film is delimited.

34. (Currently amended) The process according to claim 33, wherein all or part of the ~~said supported~~ film structure is formed by a process comprising an epitaxial growth ~~process~~.

35. (Currently amended) The process according to claim 30, wherein ~~the a~~ a main part of the substrate ~~is~~ comprises a reusable substrate.

36.-38. (Cancelled)

39. (Currently amended) The process according to claim 30, wherein the second species of gaseous compounds ~~has inclusions~~ have a chemical affinity with the first species of gaseous compounds.

40.-41. (Cancelled)

42. (Currently amended) The process according to claim 33, wherein ~~the~~ introducing a first species of gaseous compounds ~~layer of inclusions is formed by~~ comprises implantation of neutral compounds ~~an element~~ in a layer of the substrate.

43. (Currently amended) The process according to claim 39, ~~including further~~ comprising the step of heat treating the substrate so as to increase trapping efficiency of the ~~implanted elements~~ second species of gaseous compounds.

44. (Currently amended) The process according to claim 39, including further comprising the step of heat treating the substrate so as to modify morphology of the confinement layer inclusions.

45.-46. (Cancelled)

47. (Currently amended) The process according to claim 30, wherein ~~the~~ introducing the second species of gaseous compounds are implanted by comprises bombardment of neutral compounds or ions.

48. (Currently amended) The process according to claim 30, wherein introducing the a first species of gaseous compounds are implanted comprises one of implantation by plasma assisted diffusion, thermal diffusion, or plasma assisted diffusion combined with thermal diffusion and/or diffusion assisted by electrical polarization, or plasma assisted diffusion combined with thermal diffusion and diffusion assisted by electrical polarization.

49. (Currently amended) The process according to claim 30, ~~and further~~ comprising a heat treatment step for weakening the substrate at the confinement layer of inclusions so as to facilitate separation between the thin film and ~~the a~~ remainder of the substrate.

50. (Currently amended) The process according to claim 30, ~~and further~~ comprising a step ~~in which~~ of placing the thin film delimited in the substrate is placed in intimate contact with a support to which the thin film will bond after separation from ~~the a~~ remainder of the substrate.

51. (Currently amended) The process according to claim 50, wherein placing the thin film in intimate contact with a support ~~said intimate contact is achieved by~~ comprises bonding the thin film to the support.

52. (Currently amended) The process according to claim 49, wherein ~~said the~~ heat treatment step comprises pulse heating.

53. (Currently amended) The process according to claim 30, wherein separating said the thin film is ~~separated~~ from the ~~remainder of the~~ substrate by comprises applying mechanical stress.

54. (Currently amended) The process according to claim 30, wherein forming a thin film of material from a ~~the~~ substrate comprises forming a thin film of material from a silicon substrate.

55. (Currently amended) The process according to claim 30, wherein forming a thin film of material from a ~~the~~ substrate comprises forming a thin film of material from a III-V semiconducting material.

56. (Currently amended) The process according to claim 30, wherein forming a thin film of material from a ~~the~~ substrate comprises forming a thin film of material from a structure ~~made of~~ comprising thin films.

57. (Currently amended) The process according to claim 30, ~~and including~~ further comprising the step of at least partially treating the thin film before ~~it is separated~~ separating the thin film from the substrate, to form an integrated circuit, on all or part of the thin film ~~being transferred, an integrated circuit~~.

58. (Currently amended) The process according to claim 30, ~~and including~~ further comprising the step of at least partially treating the thin film before ~~it is separated~~ separating the thin film from the substrate, to form, an optoelectronic component on all or part of the thin film ~~being transferred, an optoelectronic component~~.

59. (Previously presented) A process for forming a thin film of material from a substrate, comprising the steps of:

(a) forming a gaseous compound trap zone ~~by implantation of a layer of inclusions in the substrate~~ at a depth in the substrate corresponding to a required thickness of the thin film, wherein ~~the inclusions originate from~~ the gaseous compound trap zone is defined by a parametric mismatch between of a material forming

comprising the gaseous compound trap zone ~~inclusions layer with and~~ adjacent regions of the substrate;

(b) ~~treating the substrate so as to introduce~~ introducing into the material layer of inclusions, a dose of gaseous compounds sufficient to cause formation of micro-cavities in a fracture plane along which the thin film can be separated from the remainder of the substrate,

wherein the introduction of gaseous compounds ~~involving~~ comprises a step of implantation of ~~said~~ the gaseous compounds; and

(c) separating and recovering the thin film from the substrate along the fracture plane by placing a support ~~wherein the substrate is placed~~ in intimate contact with the substrate ~~a support to which~~ such that the thin film ~~will bond~~ bonds to the support ~~after separation from the remainder of the substrate.~~

60. (New) The process according to claim 33, wherein introducing a first species of gaseous compounds comprises implantation of ions in a layer of the substrate.

61. (New) The process according to claim 30, wherein the second species of gaseous compounds comprises implantation of a rare gas.

62. (New) The process according to claim 30, wherein introducing a first species of gaseous comprises implantation of boron and introducing the second species of gaseous compounds comprises implantation of hydrogen.

63. (New) A process for forming a thin film comprising:

- (a) providing a first substrate having a stressed region;
- (b) forming a thin film layer on the first substrate;
- (c) introducing gaseous compounds into the stressed region either before or after forming the thin film layer;
- (d) contacting the thin film layer with a second substrate; and
- (e) transferring the thin film layer to the second substrate.

64. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises epitaxially depositing a material onto the first substrate.

65. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises sputtering a material onto the first substrate.

66. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises chemical vapor depositing a material onto the first substrate.

67. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises laser ablation-assisted vapor deposition of a material onto the first substrate.

68. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises depositing a stressed film on a back side of the first substrate to cause a morphological deformation of the first substrate.

69. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises ion implantation of a stress-inducing species into the first substrate.

70. (New) The process according to claim 63, wherein providing a first substrate having a stressed region further comprises applying a heat treatment to the stressed region.

71. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer comprising a layer of inclusions by means of a sequence of film deposition processes, such that a crystalline layer is separated from the substrate by one or more additional layers that induce variations in the crystalline layer.

72. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer comprising a layer of inclusions by means of a columnary growth process.

73. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer comprising a layer of inclusions by means of generating grain joints.

74. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer comprising a layer of inclusions by forming a material having a parametric mismatch with adjacent regions of the substrate.

75. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises providing a multi-layer substrate and forming a buried confinement layer comprising a layer of inclusions by means of etching a portion of the multi-layer substrate.

76. (New) The process according to claim 63, wherein providing a first substrate having a stressed region comprises providing a multi-layer substrate and forming a buried confinement layer comprising a layer of inclusions by means of a heat treatment of at least one of the layers in the substrate.

77. (New) A process for forming a thin film of material from a substrate, the process comprising the steps of:

- (a) providing a first substrate having a stressed region in a confinement layer at a distance from a surface of the substrate
- (b) introducing at least one gaseous compound at a mean depth substantially within the confinement layer;
- (c) applying a heat treatment to allow the at least one gaseous compound to migrate into the confinement layer; and

(d) separating and recovering the thin film from the substrate along a fracture plane in the confinement layer.

78. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises epitaxially depositing a material onto the first substrate.

79. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises sputtering a material onto the first substrate.

80. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises chemical vapor depositing a material onto the first substrate.

81. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises laser ablation-assisted vapor deposition of a material onto the first substrate.

82. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises depositing a stressed film on a back side of the first substrate to cause a morphological deformation of the first substrate.

83. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises ion implantation of a stress-inducing species into the first substrate.

84. (New) The process according to claim 77, wherein providing a first substrate having a stressed region further comprises applying a heat treatment to the stressed region.

85. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer by means of a film deposition process.

86. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer by means of columnary growth process.

87. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer by means of generating grain joints.

88. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises forming a buried confinement layer comprising a material having a parametric mismatch with adjacent regions of the substrate.

89. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises providing a multi-layer substrate and forming a buried confinement layer by means of etching a portion of the multi-layer substrate.

90. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises providing a multi-layer substrate and forming a buried confinement layer by means of a heat treatment of at least one of the layers in the substrate.

91. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises implanting a stress-inducing first species into the first substrate and wherein implanting of the first species and introducing the at least one gaseous compound comprise a first and second implantation of a rare gas.

92. (New) The process according to claim 77, wherein providing a first substrate having a stressed region comprises implanting a stress-inducing first species into the first substrate and wherein the implanting of the first species and the introducing of the at least one gaseous compound comprise a first and second implantation of hydrogen.

93. (New) The process according to claim 91, wherein the first implantation of hydrogen comprises implanting a first dose of hydrogen, wherein the second

implantation of hydrogen comprises implanting a second dose of hydrogen, and wherein the first dose is greater than the second dose.

94. (New) The process according to claim 77, further comprising heating the substrate prior to introducing the at least one gaseous compound at a time and temperature sufficient to modify the morphology of the confinement layer.

95. (New) The process according to claim 94, wherein heating the substrate comprises pulse heating.

96. (New) The process according to claim 94, wherein heating the substrate comprises rapid thermal annealing.